

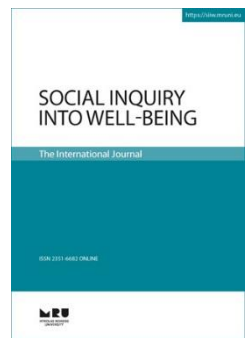


MYKOLAS ROMERIS
UNIVERSITY

<http://siw.mruni.eu>
2017, Vol. 3, No. 1

DOI:10.13165/SIIW-17-3-1-01

Social Inquiry into Well-Being



E-ISSN 2351-6682

Personality, Life Events, and Three Components of Subsequent Subjective Well-Being in Female University Students

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Abstract

The study investigated the effect of personality traits (wave 1), change in personality traits over a one-year time period (from wave 1 to wave 2), and life events over the past year (wave 2 reports) on three components of female university students' (N = 280; mean age 20.2 years) subsequent (wave 2) subjective well-being, i.e. emotional (EWB), psychological (PWB), and social (SoWB). We applied the Big Five Inventory to evaluate personality, the Scale of Significant Life Events in Emerging Adulthood to assess the number of life events and student-perceived influence of these events on their lives, and the Mental Health Continuum – Short Form to measure EWB, PWB, and SoWB. Each of the Big Five traits played a significant and somewhat different role in predicting subsequent levels of the components of well-being, over and beyond background variables. Baseline levels of Extraversion, Conscientiousness, Neuroticism, and positive life events were associated with both EWB and PWB. Whereas an increase in Extraversion and a decrease in Neuroticism predicted EWB, an increase in Agreeableness, Conscientiousness, and Openness contributed to PWB. Baseline levels of Extraversion and an increase in Agreeableness were also predictive of SoWB. In support to the validity of the three-component model of well-being, the findings suggest the Big Five as a significant force in shaping different aspects of female students' well-being differentially, whereas the important but not extremely adverse or favourable life events within the past year show little influence above the effects of personality.

Keywords: university students, females, personality traits, life events, well-being

Funding

Slovene Research Agency # P5-0062

Introduction

Subjective well-being is an essential concern of individuals and society. The search for explanation of individual differences in well-being has a long tradition in

social sciences. A large body of research (e.g., Diener, Oishi, & Lucas, 2003; Diener, Suh, Lucas, & Smith, 1999; Gomez, Krings, Baugarter, & Grob, 2009; Steel, Schmidt, & Shultz, 2008) has concentrated on its correlates and has generally suggested a rather small (or no) effect of demographic

characteristics on measures of well-being (e.g., Diener et al., 2003; Lamers, Westerhof, Kovacs, & Bohlmeijer, 2012; Zupančič, Komidar, & Puklek Levpušček, 2014), but an important role of personality and life events in people's positive or negative experiences of their lives. However, those findings mainly stem from research targeting life satisfaction or emotional well-being (e.g., DeNeve & Cooper, 1998; Diener et al., 2003; Gomez et al., 2009; Steel et al., 2008). More recent outlines for future studies have thus emphasized a need to identify how different demographic variables, dispositional traits (e.g., extraversion), as well as situational factors (e.g., life events) jointly relate to various components of well-being (Gallagher, Lopez, & Preacher, 2009; Gomez et al., 2009; Lamers et al., 2012; Luhmann, Hofmann, Eid, & Lucas, 2012).

Following respective recommendations, we explored the unique contribution of the proposed groups of factors (demographic, personality, and life events) to three components of subsequent well-being in a sample of emerging adult students, who remain rather underrepresented in well-being studies. Precisely, we examined whether the Big Five personality traits (Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness), change in those traits, as well as positive and negative life events experienced by students exhibit differential effects on their subsequent emotional (EWB), psychological (PWB), and social well-being (SoWB). Given that emerging adulthood (Arnett, 2006, 2014) is a relatively recent phenomena in postmodern societies (and not commonly approved among social scientists; e.g., Hendry & Kloep, 2010), we deem studying the factors of different components of well-being important to better understand the newly defined (and somewhat controversial) developmental period.

Components of subjective well-being

More differentiated perspectives on subjective well-being than evaluations of pleasantness or unpleasantness of life (e.g., life satisfaction) include both hedonic and eudaimonic aspects, as well as private and public aspects of well-being. Accordingly, we relied on the model of EWB, PWB and SoWB (Keyes, 2002, 2009). EWB reflects hedonic experiences (the presence of positive affect, the absence of negative affect, and life satisfaction), whereas PWB and SoWB represent eudaimonic components of well-being. PWB is conceived as an outcome of engagement in meaningful activities and actualization of one's own potentials (Ryan & Deci, 2001; Waterman, 1993), entailing autonomy, environmental mastery, personal growth, positive relations with others, purpose in life, and self-acceptance (Ryff, 1989). Along with EWB, PWB refers primarily to intrapersonal phenomena related to individuals' private lives. In contrast, SoWB represents a public phenomenon and indicates a degree to which people are functioning well in their social world beyond close relationships (Keyes, 1998). SoWB hence depicts subjective evaluations of people's social integration, social contribution, social coherence, social actualization, and

social acceptance (Keyes, 2002, 2009). In support to the model, Gallagher et al. (2009) have demonstrated that a variety of lower-order components of well-being can be represented most parsimoniously with three oblique higher-order constructs of EWB, PWB, and SoWB.

In contrast to life satisfaction or EWB (e.g., Gomez et al. 2009), studies on the unique account of both personality traits (especially their change) and life events for eudaimonic well-being are currently lacking (but see Lamers et al., 2012). To our literature review on well-being in adolescence (e.g., Ho, Cheung, & Cheung, 2008; Keyes, 2006a, 2006b; Lamers, Westerhof, Bohlmeijer, ten Klooster, & Keyes, 2011; McCullough, Huebner, & Laughlin, 2000) and emerging adulthood (Daukantaitė, 2015; Kins & Beyers, 2010; Robitschek & Keyes, 2009; Teng, Venning, Winefield, & Crabb, 2015; Zupančič, Komidar, & Puklek Levpušček, 2014) we found no research tapping into the respective relationships in samples younger than adults. To fill this gap, our study focused on emerging adult students who do not view themselves as fully adult (e.g., Nelson, 2009; Zupančič, Friedlmeier, Puklek Levpušček, Sirsch, Bruckner-Feld, & Horvat, 2014).

Emerging adulthood

The term emerging adulthood was introduced by Arnett (2000, 2014) to emphasize several distinctive features of young people (between ages 18 and at least 25) in contemporary postmodern societies, which emphasize an important role of education, professional training, individual choice and personal independence. Accordingly, this period is characterized by prolonged education, financial dependence, postponed leaving parental home, marriage, parenthood, and career start (Arnett, 2000, 2014; Buhl & Lanz, 2007). The description certainly does not apply to all young people of the corresponding ages (or a greater part of them, not even in Western countries, e.g., Hendry & Kloep, 2010), but it describes remarkably well a majority of young Slovenes (CEPYUS & FES, 2014; Zupančič, 2011; Zupančič & Puklek Levpušček, 2011), particularly students (68% are enrolled in tertiary education, OECD, 2014).

Along with distinctive demographic features, such as diversity and change in living situation, education/work related issues and intimate relationships, a sense of ambiguity in one's own developmental status (feeling adult in some respects, but not in others), self-focusing, optimistic views on one's own future possibilities, and prolonged identity exploration are supposed to be the most salient characteristics of emerging adults (Arnett, 2006, 2014). Those qualities were likewise identified among Slovene emerging adult students (Zupančič, 2011; Zupančič, Friedlmeier et al., 2014; Zupančič & Puklek Levpušček, 2011), as well as in more representative samples (Lavrič et al., 2010; CEPYUS & FES, 2014).

Gomez et al. (2009) revealed several differences in the relationships of personality and life events with EWB among young, middle-aged, and elderly adults. It hence appears sensible to investigate how demographic characteristics, dispositional traits, and life events relate to different components of well-being in emerging adults who presumably share distinctive developmental features and

tasks to be accomplished, such as identity consolidation, establishing a balance between autonomy and relatedness to parents, and change in focusing from the self towards others (e.g., Arnett, 2014; Zupančič & Kavčič, 2014). However, we only aimed at exploring the personality/events–well-being relationships in students to add to extant knowledge about emerging adulthood, and not at testing a potential moderating effect of the newly proposed age period on the respective relationships. We nonetheless referred to several characteristics of emerging adulthood and previous research with emerging adults to formulate the hypotheses about differential longitudinal relationships of the Big Five and life events with the three components of students' well-being.

The Big Five personality traits and subjective well-being

According to the personality model, well-being depends primarily on personality traits (Costa & McCrae, 1980), dispositional tendencies to feel, think, and act in a certain way across time and situations. Empirical studies have indeed suggested that the traits as captured by the Big Five model show convincing links with well-being across adulthood (e.g., DeNeve & Cooper, 1998; Diener et al., 1999; Lamers et al., 2012; Steel et al., 2008). Whereas abundant research has focused on EWB or life satisfaction, the relationships of the Big Five with eudaimonic well-being (PWB and SoWB) remain understudied, inconclusive and open to further inquiry. Given the scattered evidence on the former relationships and a lack of empirical foundation to elaborate the links between personality and different (particularly eudaimonic) components of well-being in emerging adults, we briefly describe each of the five traits and their likely associations with EWB, PWB, and SoWB.

Extraversion represents a tendency toward positive emotionality, gregariousness, outgoingness, dynamic activity, and self-assertion (John, Naumann, & Soto, 2008). It is biologically based on the Behavioural Approach System (Gray, 1990) and sensitivity to cues of social reward (Ashton, Lee, & Paunonen, 2002), predisposing individuals to approach others (seeking out social reward) and engage socially, which leads them to greater levels of pleasure. Besides experiencing contacts with others as particularly rewarding, frequent expressions of positive emotions and enjoyment in social interactions among extraverted individuals tend to elicit favourable reactions from their partners, and thus promote quality of interpersonal relationships (e.g., Zupančič & Kavčič, 2014). A large body of research, including meta-analyses (DeNeve & Cooper, 1998; Steel et al., 2008), has demonstrated convincing relations of Extraversion with life satisfaction or positive affect (EWB), and suggested the influence of the trait on EWB through both biological and behavioural pathways (see Lamers et al., 2012; Steel et al., 2008). To some extent, there is also an overlap between the constructs of Extraversion and EWB (e.g. positive affect).

Links of Extraversion with PWB (Lamers et al., 2012; Schmutte & Ryff, 1997) and SoWB (Lamers et al., 2012) have also been found. In addition, emerging adulthood has been outlined by prolonged identity exploration (Arnett, 2014) and Extraversion seems to play an important role in identity development. The trait namely predicts exploration

in-depth and commitment processes (Luyckx, Klimstra, Duriez, Schwartz, & Vanhalst, 2012), which lead towards identity consolidation, associated with adjustment (see Roberts & Caspi, 2002), and possibly contributes to feelings that life is meaningful. Likewise, extraverted students, as compared to their less extraverted peers, experience more positive relations with parents (Zupančič & Kavčič, 2014), may hold more favourable attitudes toward the self (due to positivity), take more advantages of environmental opportunities (due to approach tendencies, activity, and assertiveness) during their search for identity and thus, have a stronger sense of developing their own potentials, all being characteristics of PWB (Ryff, 1989).

It further appears that individuals higher in Extraversion show a greater involvement in a community life (e.g., Ozer & Benet-Martínez, 2006), may hold a stronger sense of being a part of community, respond more successfully to social challenges of life, view society in a more optimistic way, and may thus exhibit higher levels of SoWB than less extraverted people. Although emerging adults are characterized as self-focused, self-sufficient, and feeling free of obligations for others, they also explore how they fit into society, search for their place in a community and consider their future life possibilities in the adult society (Arnett, 200, 2014). In this pursuit, extraverted young people may deem their society a particularly pleasant and promising place for fulfilling their potentials. Along these lines, we expected that Extraversion would predict students' subsequent well-being across the three components.

Neuroticism is outlined as a tendency toward negative affectivity, such as fear, anxiety, irritability, mood swings, and emotional over-reactivity (John et al., 2008). Similarly to Extraversion, it has been proposed to influence EWB through biological and behavioural pathways (e.g., Ozer & Benet-Martínez, 2006; Steel et al., 2008), but in a negative way.

The neurotic proclivity is presumably associated with biologically based Behavioural Inhibition System, sensitive to threat, potential punishment, and unfamiliar stimuli (Gray, 1990; see also Caspi & Shiner, 2006). It predisposes individuals to attend to punishers and inhibit their approach towards novel situations and people through promotion of negative affect. In general, neuroticism makes people vulnerable to detrimental effects of stress and liable to experience difficulties across situations and contexts. Accordingly, the trait has demonstrated conclusive negative associations with life satisfaction (e.g., DeNeve & Cooper, 1998; Diener et al., 1999; Steel et al., 2008), EWB (Lamers et al., 2012), and PWB (Schmutte & Ryff, 1997).

Consistently, Neuroticism in adolescence and emerging adulthood has shown compelling links with internalizing problems (e.g., Klimstra, Akse, Halle, Raaijmakers, & Meeus, 2010; Slobodskaya, 2007; Tackett, Kushner, De Fruyt, & Mervielde, 2013), reliance on avoiding coping strategies, ruminative identity exploration (Luyckx et al., 2012), and difficulties in mastering important developmental tasks (Shiner, Masten, & Tellegen, 2002; Zupančič & Kavčič, 2014). Due to their proneness towards negative emotionality, lack of self-assurance and capacity to cope effectively with negative experiences, emotionally instable emerging adults may encounter problems in managing daily

hassles (possibly over-estimating them), facing life challenges, resolving identity (e.g., Luyckx et al., 2012) and succeeding in individuation (Zupančič & Kavčič, 2014). Hence, they would be likely to experience high levels of unpleasant emotions (low levels of EWB), as well as problems in close relationships, striving for autonomy, approving the self, finding a purpose in life, and developing a sense of environmental mastery (PWB). Unconfident, anxious, worrisome, wary, and socially inhibited emerging adults may also be at risk for poor SoWB as they may miss important opportunities for successful social functioning and integration into society; these may be especially important when they face challenges of the forthcoming adulthood.

Agreeableness delineates proneness toward feeling, thinking, and acting in a pro-social way. It is manifested through empathic responsiveness, kindness, friendliness, helpfulness, caring and co-operative behaviour (John et al., 2008), which generally fosters positive interpersonal relationships. Relative to Extraversion and Neuroticism, weaker associations with life satisfaction have been reported for Agreeableness (DeNeve & Cooper, 1998; Steel et al., 2008). Scarce research on personality–eudaimonic well-being relationships has also shown positive links of Agreeableness with PWB (Schmutte & Ryff, 1997) and SoWB (Lamers et al., 2012), with the trait presumably influencing eudaimonic well-being through behavioural pathways (Ozer & Benet-Martínez, 2006).

In emerging adulthood, Agreeableness contributes to warm, considerate, easy-going, respectful, and harmonious parent–child relationships (Zupančič & Kavčič, 2014; Weiss & Schwartz, 1996). The likelihood of engagement in behaviour that sustains favourable and reciprocal interpersonal relationships has been evidenced to promote closeness and mutual confidence between relational partners, rendering emerging adults to feel connected to others, view them as supportive (Branje, van Lieshout, & van Aken, 2004; Zupančič & Kavčič, 2014), and rely on social support to manage challenging and/or difficult situations (Luyckx et al., 2012). Due to their pro-social characteristics and positively charged close relationships, agreeable emerging adults may surround themselves with warm and supportive people and thus, enjoy higher levels of PWB. In particular, by developing satisfactory interpersonal ties (e.g., Schmutte & Ryff, 1997), a sense of self-acceptance (also promoted through appraisal of the self by others) and environmental mastery (facilitated through social support).

Considering emerging adults' optimistic views on their future life in a given community, and a range of perceived opportunities the society offers them (e.g., Arnett, 2014; CEPYUS & FES, 2014), we also tentatively suggested that students with higher levels of Agreeableness would be more likely to hold favourable views on human nature, feel that they have something in common with others, belong to a community, and consider it as safe, receptive, pleasant and predictable (features of SoWB). Accordingly, we pointed to possible relationships between students' Agreeableness and both eudaimonic components of their subsequent well-being.

Conscientiousness refers to individuals who are goal-oriented, persistent, diligent, purposeful, caring, thorough and systematic at tasks, achievement striving, and set high

standards for themselves (John et al., 2008). The trait involves self-regulatory capacities, which enable people to regulate their emotions and attention effectively, and display responsible behaviour (Caspi & Shiner, 2006). An effective regulation of negative emotions, and capability to delay immediate gratification in order to achieve more appreciated goals may further represent an avenue to greater happiness. Modest positive associations of Conscientiousness with life satisfaction were indeed detected by meta-analyses (DeNeve & Cooper, 1998; Steel et al., 2008) and the trait was also associated with higher levels of PWB (Schmutte & Ryff, 1997). However, Lamers et al. (2012) found Conscientiousness unrelated to the three components of well-being when controlling for psychopathology, demographics and other traits.

In emerging adults, Conscientiousness promotes adaptive identity processes, use of effective coping strategies (Luyckx et al., 2012), mature parent–child relationships (Zupančič & Kavčič, 2014), and academic attainment (Poropat, 2009); hence, it is likely to render a sense of personal achievement and satisfaction. Furthermore, features of Conscientiousness, such as accepting responsibility for consequences of one's own actions, good self-control over emotions, and interpersonal reliability are conceived as important indicators of adulthood (e.g., Arnett, 2001; Nelson, 2009; Sirsch, Dreher, Mayr, & Willinger, 2009), all of which could contribute to emerging adults' sense of continued personal growth, self-determination, effective management of one's life and the surrounding world, and reliability in close relationships. We thus expected that Conscientiousness would predict emerging adults' private aspects of well-being (EWB and PWB).

Openness reflects proneness to seek out and enjoy new experiences, which is manifested in intellectual curiosity, exploration, open-mindedness, variety of interests, and complexity of mental and experiential life (John et al., 2008). Meta-analyses revealed small positive effects of the trait on life satisfaction (DeNeve & Cooper, 1998; Steel et al., 2008), Schmutte and Ryff (1997) found no connection with PWB, but Lamers et al. (2012) demonstrated a unique positive contribution of the trait to PWB.

In line with previous suggestions (e.g., Ryff, 1989), inclinations toward broad-mindedness, curiosity and experiences of novelty may provide individuals an instrumental avenue through which a sense of personal growth can be achieved. Relatedly, the characteristics of open emerging adults appear to contribute to their adjustment to new developmental tasks, particularly through involvement in adaptive identity processes of exploration and commitment, use of effective coping strategies (Luyckx et al., 2012), self-reliance and autonomous functioning (Zupančič & Kavčič, 2014). Relative to their less open peers, we thus assumed that students high in Openness would be more likely to experience higher levels of self-determination, personal development, and successful management of their private life (PWB).

To our knowledge, research on the role of personality change in subjective well-being is very limited and has been done only in relation to satisfaction with specific life domains, such as marital satisfaction and satisfaction with

work (Roberts & Chapman, 2000; Watson & Humrichouse, 2006). Given that emerging adulthood is characterized by relative change in personality (Caspi, Roberts, & Shiner, 2005; Roberts, Walton, & Viechtbauer, 2006), we accounted for a potential effect of personality change on the components of well-being, on top of the baseline levels of traits to further contribute to the knowledge in the field.

Life events and subjective well-being

Significant life events refer to major experiences of individuals (e.g., death of a parent), meaningful changes in their life (e.g., moving out of parental home), and normative life transitions (e.g., starting a full-time job). Emerging adulthood is delineated by many and closely spaced or simultaneous life changes (Schulenberg, Sameroff, & Cicchetti, 2004), as well as diversity in life events experienced (e.g., Cohen, Kasen, Chen, Hartmark, & Gordon, 2003) which further show links with young people's well-being (e.g., Knoester, 2003; Schulenberg, O'Malley, Bachman, & Johnston, 2005). A longitudinal study, for example, suggested that life events jointly affect emerging adults' overall happiness and satisfaction with different areas of familial and non-familial life (Knoester, 2003). Yet, a larger body of work has focused on the relationships between life events and EWB or life satisfaction across adulthood (Diener et al., 1999; Gomez et al., 2009; Headey & Wearing, 1989; Luhmann et al., 2012), though less attention has been devoted to the connections of events with eudaimonic well-being (but see Bryden, Field, & Francis 2015). Research has also demonstrated that personality traits predispose individuals to experience certain life events (Headey, 2006; Headey & Wearing, 1989; Saudino, Pedersen, Lichtenstein, McClearn, & Plomin, 1997).

Considering the relationships among personality, life events and well-being, as well as stronger temporal stability of personality traits than the stability of life events and well-being, Headey and Wearing (1989) proposed a dynamic equilibrium model of well-being. It contends that everybody has an equilibrium pattern of life events and an equilibrium level of well-being, which are both moderately stable, and affected by personality. When the pattern of events deviates from the baseline pattern, it changes the level of well-being,

which tends to revert to its usual level as a result of the equilibrating function of stable personality, though this may not always be the case (Headey, 2006). According to the model, life events should hence affect well-being over and above personality (Headey & Wearing, 1989), but studies directly investigating and comparing the unique relation of personality, and life events to well-being (particularly in emerging adults), from both the hedonic and eudaimonic perspective are still lacking. Therefore, we examined whether the number of life events encountered by the emerging adult students within the preceding year, and/or the self-perceived impact of these events on their life uniquely contribute to EWB, PWB, and SoWB beyond personality.

Problem and hypotheses

In sum, our first goal was to explore the unique contribution of both baseline levels of the Big Five personality traits and change in those levels, as well as life events within the past year to students' EWB, PWB, and SoWB, over and above the background variables (age, living arrangement and intimate relationship status).

Our second goal was to examine the ability of individual traits to differentially predict the three components of well-being. Relying on the aforementioned relationships between the constructs and considering the features of emerging adulthood, we hypothesised baseline levels of: (i) both Extraversion and (low) Neuroticism to predict subsequent levels of the three components well-being, (ii) Agreeableness to predict eudaimonic well-being (PWB and SoWB), (iii) Conscientiousness to associate with private aspects of well-being (EWB and PWB), and (iv) Openness to connect with PWB (Figure 1). Due to insufficient empirical foundation, we formulated no specific hypothesis about the predictive value of change in each of the personality traits. Finally, we proposed that the number and the self-perceived impact of life events on students' life would both contribute to their subsequent well-being, over and beyond personality, with negative events depressing and positive ones augmenting it.

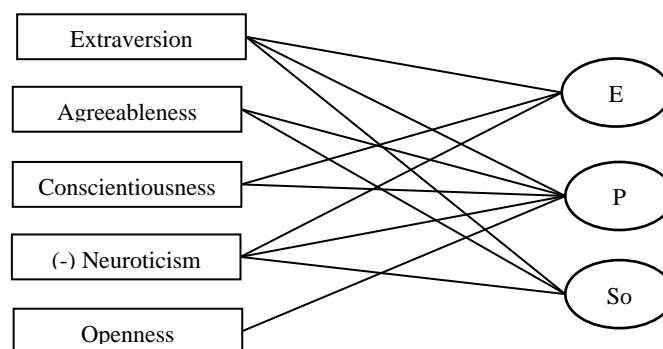


Figure 1. The proposed differential associations of the Big Five with the components of well-being, i.e. emotional (EWB), psychological (PWB), and social well-being (SoWB).

Method

Participants and procedure

The participants of the present study take part in a broader ongoing follow-up project on personality trait development over the undergraduate university years. It entails three waves (W) of data collection, with W3 currently in the process. As we apply several measures in each W, we only assess personality and significant life events across W1, W2, and W3 not to overburden the students or demotivate them to participate in the following W. Regarding the main interest of the project and considering important change in at least some personality domains during the university years (e.g., Robins, Fraley, Roberts, & Trzesniewski, 2001) as well as reports on high density of life events within the third decade of life (Caspi, 2002; Grob, Krings, & Bangerter, 2001), we opted for a one-year gap between the consecutive measurements.

We recruited the students from two of the three extant state universities in Slovenia. The full sample in both W1 and W2 comprised only 6% males, but we excluded them from the present analyses (as suggested by the reviewers) because it would not be sensible to draw conclusions from the results as being equally relevant for men and women. The present sample thus included 280 female students who participated in both W1 and W2. Their mean age in W1 was 20.2 years ($SD = 1.0$) and ranged from 18 to 26 years. At the time of data collection on well-being (W2), 53% were involved in an intimate relationship, lasting in average 29 months ($SD = 18.3$); 5% of the participants lived out of parental home, 73.9% of them partly resided with parents (they stayed in dorms or rented apartments during days of study obligations, but returned to parental home over weekends, holidays and semester brakes), whereas 21.1% permanently co-resided with parents. Those background characteristics were not inter-related significantly.

We collected data through an on-line survey. The students were asked to agree with the Privacy policy, which contained information about the purpose of the study, the respondents' rights concerning anonymity, data storage, and use of the data. In W1, the students attending psychology, and various education study programs reported on their background characteristics (age, living situation, and intimate relationship) and personality as part of their psychology course assignments. In W2, we asked the same respondents to assure data on their personality, life events over the preceding year, and current well-being voluntarily. The students were given an automatically generated feedback on their personality and well-being after they filled out the survey.

Measures

We employed the *Big Five Inventory* (BFI; John, Donahue, & Kentle, 1991) to obtain self-report data on students' personality in each wave. The BFI is a 44-item questionnaire to assess the five robust personality traits. The items are rated along a 5-point response scale (1 = completely disagree, 5 = completely agree). Satisfactory

psychometric properties were found for the Slovene version of the BFI (Avsec & Sočan, 2007). In our study, the five trait-scales suggested satisfactory internal reliability (α s) in both waves: .83 (W1) and .85 (W2) for Extraversion, .70 (W1) and .69 (W2) for Agreeableness, .74 (W1) and .76 (W2) for Conscientiousness, .81 (W1) and .87 (W2) for Neuroticism, and .80 (W1) and .82 (W2) for Openness. The rank-order stability coefficients (r s) from W1 to W2 were 0.82, 0.63, 0.73, 0.72, and 0.78 for Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness, respectively.

The *Scale of Significant Life Events* was constructed for the purpose of our follow-up project. We considered several events from the existing instruments (Norbeck, 1984; Sarason, Johnson, & Siegel, 1978; Swearingen & Cohen, 1985; Vaidya, Gray, Haig, & Watson, 2002), and added few age-relevant ones (e.g., moved out of parental home). The scale hence lists 46 items (events) referring to several life domains (education/work, family life, intimate relationships/friendships, health/personal, leisure/culture, and societal events); an open question also asks about any other influential life event the participant may have had encountered. The items represent allegedly positive events (e.g., involvement in a new intimate relationship), negative events (e.g., a major financial problem), partly controllable events (e.g., substantial change of study habits) and uncontrollable events (e.g., death of someone close). The students indicated significant life events they have experienced over the past year, their valence (positive or negative), and self-perceived impact of each event on their life (none, little, moderate, or strong).

The participants reported on their well-being by filling out the *Mental Health Continuum – Short Form* (MHC-SF; Keyes, 2009). The 14-item instrument offers scores on EWB, PWB, and SoWB. Three items represent EWB, six items (one item from each of the six lower-order components proposed by Ryff, 1989) describe PWB, and five items (one item from each of the five lower-order components suggested by Keyes, 1998) capture SoWB. The six-point response scale (from never to every day) measures how often the respondents experienced each of the indicators of well-being during the past month. The MHC-SF has shown sound internal consistency, test-retest reliability, discriminant validity in adolescents and adults, for instance, in the U.S., the Netherlands, and Slovenia (Kavčič & Avsec, 2013; Keyes, 2006a, 2006b; Lamers et al., 2011; Petrič, 2015; Westerhof & Keyes, 2010). The three-factor structure of the instrument has been supported with representative samples of adults and emerging adults in the US (Robitschek & Keyes, 2009), in a community sample of Slovene elderly adults (Petrič, 2015), as well as in representative samples of youth in the US (Keyes, 2006a, 2009), and the Netherlands (Lamers et al., 2011). The internal consistency of the scale-scores in our sample was good, with the alpha coefficients estimated at .89, .88 and .78 for EWB, PWB and SoWB, respectively.

Results

Descriptives and correlations

First, we performed regression analyses predicting each of the W2 personality trait scores from the respective W1 scores and saved the residuals in order to account for personality change from W1 to W2 (for a discussion of the merits of using residualized method in modelling personality change, see Roberts & Chapman, 2000). Table 1 presents means and standard deviations for the five personality trait-scores in W1 and W2, the residualized change in trait-scores from W1 to W2, the number and self-perceived impact of positive and negative events experienced by individuals within the past year, and the three component-scores of well-being.

Zero-order correlations among the variables are shown in Table 2. The baseline personality scores are statistically significantly and modestly inter-related, whereas Openness appears unrelated to Agreeableness, and Neuroticism.

Except for a moderate negative correlation of residualized change in Extraversion with residualized change in Neuroticism, the significant inter-correlations between the residualized personality change-scores are modest, whereas the baseline personality trait-scores do not correlate with the residualized change-scores (an exception is a weak and significant negative association between the baseline Neuroticism and residualized change in Agreeableness). The number of positive and negative life events encountered by the students is very strongly associated with self-perceived impact of the respective events. A few significant associations of life event-scores with personality scores are all modest. Finally, the components of well-being appear positively and moderately inter-related, and show many significant, though relatively modest associations with personality scores. The well-being scores are also significantly and modestly associated with several life event-scores (positive events with higher, and negative events with lower levels of well-being).

Table 1. Descriptive statistics of personality trait-scores in W1, W2, and their residualized change-scores from W1 to W2, life events from W1 to W2, and well-being scores in W2 (N = 280)

	Wave 1		Wave 2		Residualized change		
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	Range	<i>M</i>	<i>SD</i>
Extraversion	27.94	5.82	28.49	5.47	−15.37 to 8.31	0	3.16
Agreeableness	34.01	4.71	33.99	4.31	−12.54 to 10.45	0	3.35
Conscientiousness	33.34	4.97	33.80	4.80	−9.66 to 12.59	0	3.26
Neuroticism	23.07	5.36	22.88	5.76	−13.04 to 17.56	0	4.00
Openness	35.78	6.27	36.67	6.03	−11.83 to 9.45	0	3.75
Pos. Events Impact			9.10	7.12			
Neg. Events Impact			3.41	4.38			
Pos. Events Number			2.85	2.14			
Neg. Events Number			1.12	1.37			
Emotional WB			10.71	2.64			
Psychological WB			21.42	5.75			
Social WB			12.11	5.18			

Note. W = wave. Residualized change was calculated as residuals after regressing each of the Big Five personality scores in W2 from the respective scores in W1; negative change-scores indicate a decrease and positive change-scores an increase in a trait. Possible range for Extraversion and Neuroticism was from 0 to 40, from 0 to 45 for Agreeableness and Conscientiousness, and from 0 to 50 for Openness. Pos./Neg. Events Impact = total self-perceived impact of positive/negative events on an individual's life; possible scores range from 0 to 120 for positive and from 0 to 160 for negative events. Pos./Neg. Events Number = total number of positive/negative events; possible scores range from 0 to 30 for positive and from 0 to 40 for negative events. WB = well-being with possible scores ranging from 0 to 15 for Emotional, from 0 to 30 for Psychological, and from 0 to 25 for Social WB.

Table 2 does not include correlations with background characteristics (age, living arrangement and intimate relationship status), of which we revealed the following significant, but modest associations: The students in a romantic relationship tended to score higher on Extraversion than their single peers ($r = .15, p < .05$), whereas the total number of negative events tended to decrease with age ($r = -.14, p < .05$).

Personality and life events predicting subsequent well-being

We tested longitudinal associations of predictor variables with students' well-being in series of hierarchical regression

analyses, separately for EWB, PWB, and SoWB (Table 3). The first block of predictors included W2 background variables. Ratings of personality traits in W1 and residualized change-scores were entered in the second and third step, respectively. Finally, we added student-perceived impact of all positive, and all negative events experienced during the past year in the fourth block. The hierarchical regressions were chosen in order to test the incremental predictive value of each block of predictors, over and above the variance in well-being accounted for by the previously entered block(s) of variables.

Table 2. Correlations among students' baseline personality trait-scores (W1), residualized personality change scores from W1 to W2, life events, and well-being scores

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.
1. E W1																
2. A W1	.18**															
3. C W1	.18*	.29**														
4. N W1	-.31**	-.33**	-.17**													
5. O W1	.28**	-.05	.12*	-.02												
6. E res.	.00	-.05	-.02	.05	.08											
7. A res.	.03	.00	.11	-.12*	.07	.26**										
8. C res.	.00	-.04	.00	.05	-.03	.18**	.11									
9. N res.	.01	.03	-.01	.00	-.03	-.47**	-.27**	-.15*								
10. O res.	-.11	-.08	-.05	.09	.00	.25**	.14*	.15*	-.12*							
11. Pos. Ev. Impact	.12*	-.04	.04	.04	.21**	.16*	.05	.02	-.11	.11						
12. Neg. Ev. Impact	.10	-.05	-.14*	.13*	.04	-.10	-.19**	-.07	.20**	.02	.20**					
13. Pos. Ev. Number	.12	-.04	.01	.04	.22**	.16**	.05	.01	-.11	.12	.98**	.21**				
14. Neg. Ev. Number	.07	-.07	-.16**	.13*	.04	-.10	-.21**	-.07	.20**	.03	.19**	.98**	.20**			
15. Emotional WB	.26**	.15*	.22**	-.29**	.08	.32**	.28**	.19**	-.30**	.13*	.19**	-.14*	.17**	-.15*		
16. Psychol. WB	.32**	.15*	.29**	-.24**	.14*	.22**	.32**	.22**	-.18**	.15*	.21**	-.10	.18**	-.12*	.60**	
17. Social WB	.20**	.11	.14*	-.19**	.17**	.12	.26**	.01	-.15*	.10	.11	-.11	.09	-.12*	.45**	.55**

Note. E = extraversion, A = agreeableness, C = conscientiousness, N = neuroticism, O = openness. Res. stands for residuals in predicting W2 personality scores from W1 personality scores. Pos./Neg. Ev. Impact = total self-perceived impact of positive/negative events on an individual's life, Pos./Neg. Ev. Number = total number of positive/negative events, WB = well-being.

* $p < .05$, ** $p < .01$

The predictor variables jointly explained from 18% to 36% of the variance in the components of subsequent well-being, which according to Cohen's (1988) guidelines presents moderate (R^2 between 0.13 and 0.26) to large effect size. The background characteristics contributed statistically

significantly to the prediction of all aspects of WB (4% of the variance explained), but among the single predictors, only semi-independent living as opposed to residing in or out of parental home contributed to higher levels of students' PWB significantly.

Table 3. Summary of the regression analyses predicting students' subsequent emotional, psychological and social well-being from background characteristics, personality, and life events

	Emotional WB	Psychological WB	Social WB
Step 1:	$\Delta R^2 = .04^*$	$\Delta R^2 = .04^*$	$\Delta R^2 = .04^*$
Age	.07	.08	-.01
Intimate Relationship	.01	.03	-.11
Living Situation d1	.10	.22*	.09
Living Situation d2	-.00	.19	-.04
Step 2:	$\Delta R^2 = .12^{***}$	$\Delta R^2 = .16^{***}$	$\Delta R^2 = .07^{**}$
Extraversion W1	.16**	.23***	.15*
Agreeableness W1	.03	.03	.03
Conscientiousness W1	.13*	.19*	.07
Neuroticism W1	-.20*	-.12*	-.07
Openness W1	-.04	.02	.08
Step 3:	$\Delta R^2 = .16^{***}$	$\Delta R^2 = .13^{***}$	$\Delta R^2 = .07^{**}$
Residual Extraversion	.17**	.06	-.02
Residual Agreeableness	.10	.19**	.18**
Residual Conscientiousness	.12	.16**	-.00
Residual Neuroticism	-.14*	-.03	-.08
Residual Openness	.07	.12*	.10
Step 4:	$\Delta R^2 = .02$	$\Delta R^2 = .02^*$	$\Delta R^2 = .01$
Positive Events ^a	.13*	.16**	.05
Negative Events ^a	-.06	-.05	-.09
Total R^2	$R^2 = .34^{***}$	$R^2 = .36^{***}$	$R^2 = .18^{***}$

Note. Standardized regression coefficients in the final model are presented.

Intimate Relationship is coded 0 for single, and 1 for involvement in a relationship. Living Situation d1 refers to dummy variable 1 for living situation (0 = out of parental home or co-residing with parents, 1 = partly residing with parents), and Living Situation d2 to dummy variable 2 for living situation (0 = (partly) out of parental home, 1 = with parents). WB = well-being

^aTotal self-perceived impact of positive/negative events.

* $p < .05$, ** $p < .01$, *** $p < .001$

The baseline levels of the Big Five traits significantly improved the prediction by 12% (EWB), 16% (PWB), and 7% (SoWB). The residualized change in personality traits from W1 to W2 further increased the prediction significantly by 16% (EWB), 13% (PWB), and 7% (SoWB), whereas the self-perceived impact of life events experienced by the students within the past year significantly added to the prediction of PWB only. Nevertheless, the total self-perceived impact of positive life events was a statistically significant single predictor of both EWB and PWB.

We performed the same set of hierarchical regression analyses with the number of positive and negative events experienced by the students within the preceding year entered in the last step, instead of the student-perceived impact of these events on their lives. The results of the two sets of regressions differing in the last step were almost identical (exact results available from authors on request), which was expected due to almost perfect correlations of the total number of both positive and negative events with the respective impact-scores.

With regard to the proposed differential prediction of the components of well-being, we revealed the following longitudinal associations with personality traits: (i) higher baseline levels of Extraversion and Conscientiousness, but lower baseline levels of Neuroticism, as well as an increase in Extraversion and a decrease in Neuroticism predicted higher levels of EWB; (ii) higher baseline levels of both Extraversion and Conscientiousness, lower baseline levels of Neuroticism, and an increase in Agreeableness, Conscientiousness and Openness were related to higher levels of PWB; (iii) higher baseline levels of Extraversion, and an increase in Agreeableness contributed to higher levels of SoWB.

Using G*Power 3.1 software (Faul, Erdfelder, Buchner, & Lang, 2009), we also conducted a post hoc power analysis in order to compute the achieved power based on given α (0.05), sample size (280) and effect size (calculated for each set of regressions based on R^2 obtained). The results suggest an adequate power (i.e., power over .80) for the total regression model (1.00 for EWB, PWB and SoWB). The power of our tests assessing the increase in explained variance in well-being measures due to the four blocks of variables was not quite adequate for background variables (step1; .78 for EWB, PWB and SoWB), non-adequate for life events variables (step 4; .56, .56, and .30 for EWB, PWB and SoWB, respectively), but adequate for baseline personality variables (step 2; 1, 1, and .97 for EWB, PWB and SoWB, respectively) and personality residualized change (step 3; 1, 1, and .97 for EWB, PWB and SoWB, respectively).

Discussion

This study responded to the assertions that research on well-being should not only focus on hedonic well-being but also on its eudaimonic components, and to simultaneously examine both dispositional factors and situational factors (e.g., Gallagher et al., 2009; Gomez et al., 2009; Lamers et al., 2012). Accounting for background characteristics, we thus examined the ability of the Big Five personality traits, as well as the number and self-perceived impact of life events on one's own life to predict three components of well-

being in female university students. The most important outcomes suggest that: (i) both baseline levels of traits and change in those levels within the past year uniquely influence subsequent EWB, PWB, and SoWB, with the effects appearing stronger for the private (EWB and PWB) than public aspects of well-being (SoWB); (ii) individual traits show differential associations with both hedonic and eudaimonic well-being; and (iii) overall life events encountered by the students over the past year provide a modest unique contribution to PWB, though positive events predict both aspects of private well-being.

Unique contributions of personality to the components of subjective well-being

In line with previous findings on life satisfaction in adulthood (e.g., Diener et al., 2003), adolescence and emerging adulthood (e.g., Ho et al., 2008; Zupančič, Komidar, & Puklek Levpušček, 2014), demographics (age, living arrangement and intimate relationship status) contributed very little to the components of well-being in our female student sample. However, the power of our study to assess the variance explained in the well-being measures due to the block of background variables was less than adequate.

Baseline levels of the Big Five played a substantial role in the variance explained for each component of well-being, and change in those traits significantly improved the prediction of students' subsequent EWB, PWB, and SoWB, over and beyond the baseline levels of traits.

As expected, several differential associations of the Big Five with the components of well-being stress the distinctness of hedonic and eudaimonic well-being, since different personality traits (in particular change in their baseline levels) contributed to subsequent hedonic (EWB) than eudaimonic well-being (PWB and SoWB). Whereas baseline Extraversion played an important role across the components of well-being, its increase, as well as a decrease in Neuroticism within the past year contributed to EWB only; an increase in Agreeableness was related to both aspects of eudaimonic well-being, but not to hedonic well-being; and an increase in Openness promoted PWB, but not EWB and SoWB. Furthermore, the personality–well-being associations pointed to a distinctness of the private and the social aspect of well-being, with the baseline levels of Conscientiousness and Neuroticism (reversed) contributing to its private, but not public aspect. In addition to the established hierarchical structure of well-being (Gallagher et al., 2009) and differential links of the Big Five with these components in adults (Lamers et al., 2012), our results offer support to the validity of the three-component model proposed by Keyes (2009) with a sample of female students from a country rarely represented in the literature.

Consonant with abundant research (e.g., DeNeve & Cooper, 1998; Diener et al., 1999; Steel et al., 2008), the students with higher levels of baseline Extraversion, and lower levels of Neuroticism, as well as those who increased in Extraversion and/or decreased in Neuroticism, tended to attain greater pleasure and life satisfaction (EWB). The robust associations of both traits with EWB may reflect common emotional tendencies, involving the BAS and BIS (Gray, 1990), which promote behavioural approach aimed at

obtaining positive emotional rewards and behavioural inhibition/avoidance associated with negative affect, respectively (see also Caspi & Shiner, 2006). Our study also indicates that the female students who perceived themselves higher in Conscientiousness attained greater hedonic pleasure one year later than those lower on Conscientiousness, a result consistent with the outcomes of meta-analyses (DeNeve & Cooper, 1998; Steel et al., 2008).

With respect to PWB our findings suggest all of the Big Five (baseline levels or change in those levels) to play a role in female students' PWB. As documented previously (Lamers et al., 2012; Schmutte & Ryff, 1997), baseline Extraversion was related to PWB in our sample, possibly because positive emotional tendencies, assertiveness, and activity may enhance identity processes of exploration in-depth and commitment (Luyckx et al., 2012), and thus render young women a greater sense of self-determination, coming to terms with who they are, what they want to achieve as an adult, and how they will relate to society (Gallagher et al., 2009; Ryff, 1989). In contrast, irritable, fearful, anxious, moody, over-reactive, and socially inhibited students may perceive themselves, their competencies, close relationships, and purpose in life rather poorly as indicated by negative associations of baseline Neuroticism and subsequent PWB. Furthermore, the link of an increase in Agreeableness with students' PWB may, at least to some extent, lie in a conceptual relation between social desirability of the trait and positive relations with important others (a facet of PWB), although the two constructs are not empirically redundant (Schmutte & Ryff, 1997). Growth in Agreeableness may also associate instrumentally with well-being (McCrae & Costa, 1991; Schmutte & Ryff, 1997). Sympathetic, friendly, co-operative, kind, and trusting individuals tend to develop positively charged close relationships (Branje et al., 2004; Zupančič & Kavčič, 2014; see also Caspi & Shiner, 2006), and may enhance their appraisals of self and achieve a sense of competence in managing their life through mutually satisfying and respectful interpersonal ties. Likewise, the young women in our sample who appeared more conscientious and/or increased in Conscientiousness may have accomplished a sense of greater environmental mastery, meaning in life, and personal growth due to their basic levels and/or growing persistence, diligence, achievement-striving, and responsibility.

Against our predictions and in disagreement with extant findings (e.g., Lamers et al., 2012; Steel et al., 2008), we did not reveal associations of baseline levels of Openness, but of its increase with PWB. This suggests that in a period of search for one's place within a society and prolonged exploration of identity (Arnett, 2014), curiosity, broad-mindedness, willingness to expand one's horizons, acceptance of novel ideas, and engagement in new behaviours/roles may enhance young people understanding of themselves and their life. Openness may thus represent a pathway towards autonomy (e.g., Zupančič & Kavčič, 2014), understanding and accepting multiple aspects of self and important others, readiness to change according to increasing self-knowledge and effectiveness, finding directedness and meaning in life, and a sense of

environmental mastery, all of which are the key elements of PWB (Ryff, 1989).

Another avenue to reach effective and satisfying functioning, especially in the community life (SoWB; Keyes, 1998), seems to be driven by increasing agreeable tendencies of young women in our sample. However, agreeable individuals also tend to exhibit compliance, pliability, and vulnerability to social manipulation (Schmutte & Ryff, 1997). Boosting these characteristics may make them more likely to appraise the social nature of their lives, and less likely to criticize others, complain about their relationships and opportunities in the community life, and/or functioning of the given society. Hence, they may endorse higher levels of SoWB. Moreover, the association of baseline Extraversion with subsequent SoWB suggests that experiences of positive emotionality, sociability and active social involvement play an important role not only in private aspects of well-being, but also contribute to positive evaluations of students' community and broader society.

Limitations of the study and future directions

Several shortcomings of this study should be illuminated. It was based on self-reports and might have been subject to a single-informant bias, which tends to inflate the strength of the relationships due to shared method variance. Cross-informant approaches, combining self-, peer- and parent report on well-being, personality, and life events, or other multi-method approaches (e.g., including psychophysiological data) are thus recommended (see also Diener, 2012; Luhmann et al., 2012).

Next, our sample included only female university students (of the two thirds of the Slovene youth enrolled in tertiary education, 58% are females, SURS, 2011) who attended education and social science university programmes (represented by 83% and 67% of the females, respectively, SURS, 2011). While past adolescent (Ho et al., 2008) and emerging adult studies (Zupančič, Komidar, & Puklek Levpušček, 2014) suggested no gender effect on life satisfaction, it is nonetheless important to perform further research with more representative samples, including males, students attending science and technical tertiary programmes, as well as employed and unemployed young people.

A larger sample would increase the likelihood of including a greater number of individuals experiencing the same and/or extremely adverse/favourable events, and hence allow an examination of the way different types of events (e.g., uncontrollable and partly controllable) and/or specific events contribute to the joint effect of personality and situational factors to the components of well-being. An insufficiently large sample further impeded the application of path models to investigate the contribution of personality change to subsequent well-being and therefore we used residual scores. However, Roberts and Chapman (2000) showed that the analysis of change does depend on the technique one uses to estimate change score, but the residual scores yield essentially identical results as growth modelling, while the use of difference scores is less desirable.

Furthermore, life events may have differential effects on different lower-order components of the same higher-order component of well-being, which could blur the influence of events on EWB, PWB, and/or SoWB. For example, most events across adult samples had a stronger and more consistent effect on life satisfaction than on the frequency of experienced pleasant and unpleasant affect (the lower-order components of EWB) (Luhmann et al., 2012). A fine-grained analyses considering lower-order components of EWB, PWB, and SoWB by using the full MHC scale would provide a more comprehensive explanation of joint effects of both kinds of events, personality, and background characteristics on well-being.

Given that we measured well-being at one time-point of this correlational follow-up study, we cannot draw conclusions about directionality of the relationships obtained. Controlling for personality, lower levels of life satisfaction have been, for example, documented to prospectively predict events such as unemployment, and

relocation (Luhmann, Eid, Lucas, & Diener, 2010), whereas repeated experiences of pleasurable emotions may also lead to higher levels of sociability (Diener et al., 2003). A cross-lagged design, controlling for temporal stability of personality, events, and well-being, as well as for concurrent correlations among them across the measurement occasions, is henceforth needed and awaits our next inquiry when W3 data with the present sample will be collected.

Nevertheless, we believe that our study adds to the findings on the contribution of personality and life events to subjective well-being by analysing the unique effects of baseline levels of the Big Five, especially change in these levels, and life events on hedonic, as well as on both components of eudaimonic well-being in a relatively new developmental period of emerging adulthood

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